



ABSTRACT

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2 A method and apparatus for implementing magnetostrictive sensor techniques for the
3 nondestructive evaluation of pipes or tubes. A magnetostrictive sensor generates guided waves
4 in a pipe or tube, which waves travel therethrough in a direction parallel to the longitudinal axis
5 of the pipe or tube. This is achieved by using a magnetized ferromagnetic strip being pressed
6 circumferentially against the pipe or tube. For improved efficiency, the strip may be made from
7 an iron-cobalt alloy. The guided waves are generated in the strip and coupled to the pipe or tube
8 and propagate along the length of said pipe or tube. For detection, the guided waves in the pipe
9 or tube are coupled to the thin ferromagnetic strip and are detected by receiving MsS coils.
10 Reflected guided waves may represent defects in the pipe or tube.

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